

CLAIMS

We claim:

- 1 1. A circuit comprising:
2 a first transistor adapted to connect an output terminal of
3 a first power supply to a first load;
4 a second transistor adapted to connect a sense terminal of
5 the first power supply to the first load; and
6 a controller adapted to provide an output signal to the
7 first transistor and the second transistor to control the first
8 transistor and the second transistor.

- 1 2. The circuit of Claim 1, wherein the controller
2 switches on the first transistor and the second transistor to
3 apply power from the first power supply to the first load and
4 provide remote sensing from the first load to the first power
5 supply at approximately the same time.

- 1 3. The circuit of Claim 1, wherein the controller is
2 programmable to vary a ramp rate of the output signal to control
3 a voltage level ramp rate at the first load.

1 4. The circuit of Claim 1, further comprising:
2 a third transistor adapted to connect an output terminal of
3 a second power supply to a second load; and
4 a fourth transistor adapted to connect a sense terminal of
5 the second power supply to the second load, wherein the
6 controller provides the output signal to the third transistor
7 and to the fourth transistor to control the application of power
8 from the second power supply to the second load and provide
9 remote sensing from the second load to the second power supply
10 at approximately the same time.

1 5. The circuit of Claim 4, wherein the controller
2 controls the first, second, third, and fourth transistors to
3 provide voltage tracking at the first load and the second load.

1 6. The circuit of Claim 1, wherein the first and second
2 transistors are power MOSFETs.

1 7. The circuit of Claim 1, wherein the first and second
2 transistors are a power MOSFET and a signal level MOSFET,
3 respectively.

1 8. The circuit of Claim 1, further comprising:

2 a first resistor coupled between the controller and the
3 first transistor; and

4 a second resistor coupled between the controller and the
5 second transistor, wherein the output signal is provided to the
6 first and second transistors via the first and second resistors,
7 respectively.

1 9. The circuit of Claim 1, wherein the first power supply
2 and the first load form part of the circuit.

1 10. A power supply system comprising:

2 a power supply adapted to provide a first voltage;

3 a load adapted to receive the first voltage from the power
4 supply;

5 a first transistor coupled to an output terminal of the
6 power supply and to the load;

7 a first resistor coupled to a gate terminal of the first
8 transistor;

9 a second transistor coupled to a sense terminal of the
10 power supply and to the load; and

11 a second resistor coupled to a gate terminal of the second
12 transistor, wherein a first control signal provided via the
13 first resistor and the second resistor controls the first
14 transistor and the second transistor, respectively.

1 11. The power supply system of Claim 10, further
2 comprising a controller adapted to provide the first control
3 signal to control the first transistor and the second
4 transistor.

1 12. The power supply system of Claim 11, wherein the
2 controller switches the first and second transistors on and off
3 at approximately the same time.

1 13. The power supply system of Claim 11, wherein the
2 controller is programmable to control the first and second
3 transistors to vary a ramp rate of the first voltage at the
4 load.

1 14. The power supply system of Claim 10, further
2 comprising:

3 a plurality of power supplies adapted to provide
4 corresponding voltages;

5 a plurality of third transistors coupled to corresponding
6 output terminals of the corresponding plurality of power
7 supplies and to the load;

8 a plurality of third resistors coupled to a gate terminal
9 of corresponding ones of the third transistors;

10 a plurality of fourth transistors coupled to corresponding
11 sense terminals of the corresponding plurality of power supplies
12 and to the load;

13 a plurality of fourth resistors coupled to a gate terminal
14 of corresponding ones of the fourth transistors; and

15 a controller adapted to provide the first control signal
16 via the first, second, third, and fourth resistors to control
17 corresponding ones of the first, second, third, and fourth
18 transistors.

1 15. The power supply system of Claim 14, wherein the
2 controller provides voltage tracking of the first voltage and
3 the corresponding voltages supplied to the load.

1 16. A method of providing remote voltage sensing at a
2 load, the method comprising:

3 providing a supply voltage from a power supply to the load;
4 and

5 providing feedback of the supply voltage at the load to the
6 power supply, wherein the providing of the supply voltage and
7 the providing of the feedback occurs approximately
8 simultaneously via a first control signal.

1 17. The method of Claim 16, further comprising controlling
2 a ramp rate of the voltage level at the load.

1 18. The method of Claim 16, further comprising:
2 providing a plurality of supply voltages from corresponding
3 power supplies to the load; and
4 providing feedback of the plurality of supply voltages at
5 the load to the corresponding power supplies, wherein the
6 providing of the corresponding power supplies and the providing
7 of the feedback occurs approximately simultaneously via the
8 first control signal.

1 19. The method of Claim 18, further comprising controlling
2 voltage levels of the supply voltage and the plurality of supply
3 voltages to provide voltage tracking.

1 20. The method of Claim 16, further comprising setting
2 resistance values for corresponding signal paths of the first
3 control signal for the providing of the supply voltage and the
4 providing of the feedback, respectively.

1 21. A power supply control circuit comprising:
2 a power supply controller adapted to provide a control
3 signal to control the application of a power supply voltage from
4 a power supply to a load, the power supply controller
5 comprising:
6 an output terminal adapted to provide the control
7 signal; and
8 a first transistor, under control of the power supply
9 controller via the control signal, adapted to connect a

10 feedback path for remote sensing from the load to the power
11 supply at approximately the same time as the application of
12 the power supply voltage from the power supply to the load.

1 22. The circuit of Claim 21, wherein the control signal
2 controls a second transistor coupled between the power supply
3 and the load to control when the power supply voltage is
4 provided to the load.

1 23. The circuit of Claim 22, further comprising:

2 a first resistor coupled between the power supply
3 controller and the second transistor; and

4 a second resistor within the power supply controller and
5 coupled to the first transistor, wherein the control signal is
6 provided to the first and second transistors via the second and
7 first resistors, respectively.

1 24. The circuit of Claim 23, wherein resistance values of
2 the first and second resistors determine a turn-on time constant
3 of the second and first transistors, respectively.